

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Inventors: **Timothy Wood et al.**

Serial No.: **Not yet assigned**

Group Art Unit: **1652**

Filed: **Concurrently herewith**

Examiner: **S. Swope**

Title: **NOVEL MATRIX METALLOPROTEINASES**

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INFORMATION DISCLOSURE STATEMENT

S I R :

Pursuant to 37 C.F.R. §§ 1.97 and 1.98 and to the duty of disclosure set forth in 37 C.F.R. § 1.56, the Examiner in charge of the above-identified application is requested to consider and make of record the references listed on the attached PTO-1449, PTO/SB/08b and PTO-892 forms submitted herewith.

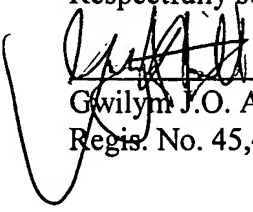
Although the information submitted herewith may be "material" to the Examiner's consideration of the subject application, this submission is not intended to constitute an admission that such information is "prior art" as to the claimed invention.

Copies of the references cited on the attached forms can be found in the parent case, U.S. Serial No. 09/862,631, filed May 22 2001.

In accordance with 37 C.F.R. § 1.97(g), the filing of this Information Disclosure Statement shall not be construed to mean that a search has been made.

No first Official Action has yet been received and it is presumed that none has yet been mailed. No fee or certification is required. 37 C.F.R. § 1.97(b).

Respectfully submitted,



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Regis. No. 45,449

Enclosures:

PTO-1449 (18 sheets)
PTO/SB/08b (1 sheet)
PTO-892 (2 sheets)

Dated: March 3, 2004

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Form PTO-1449 Modified List of Patent and Publications Cited by Applicant (Use several sheets if necessary) U.S. Department of Commerce Patent and Trademark Office		Docket No. 00014regUS/ PHRM-0444	Serial No. 09/862,631
		Applicant Wood et al.	
		Filing Date May 22, 2001	Group Not Yet Assigned
OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)			
	AA	Akane et al., "Direct Dideoxy Sequencing of Genomic DNA by Ligation-Mediated PCR", <i>Biotechniques</i> , 1994, Vol. 16, pp. 238-241	
	AB	Altschul et al., "Basic Local Alignment Search Tool," <i>J. Mol. Biol.</i> , 1990, 215, 403-410	
	AC	American Veterinary Medical Association, <i>Report of the American Veterinary Medical Assoc.</i> , Panel on Euthanasia, <i>Journal of American Veterinary Medical Assoc.</i> , 1993, 202, 229-249	
	AD	Anderson, "Human Gene Therapy", <i>Nature</i> , 1998, Suppl. To Vol. 392, No. 3379, pp. 25-30	
	AE	Anderson, W. F., "Human gene therapy," <i>Science</i> , 1992, 256, 808-813	
	AF	Aujame et al., "High Affinity Human Antibodies by Phage Display", <i>Human Antibodies</i> , 1997, Vol. 8, No. 4, pp. 155-168	
	AG	Ausubel, et al. (Eds.), "Chapter 6, Screening of recombinant DNA libraries," <i>Current Protocols in Molecular Biology</i> , 1994, John Wiley & Sons, 6.0.1-6.4.10	
	AH	Baindur et al., " Selective fluorescent ligands for pharmacological receptors," <i>Drug Dev. Res.</i> , 1994, 33, 373-398	
	AI	Baker et al., "Induction of Acetylcholine Receptor Clustering by Native Polystyrene Beads. Implication of an Endogenous Muscle-derived Signalling System", <i>J. Cell Sci.</i> , 1992, Vol. 102, pp. 543-555	
	AJ	Benoist et al., " <i>In vivo</i> sequence requirements of the SV40 early promoter region," <i>Nature</i> , 1981, 290, 304-310	
	AK	Bertilsson, G. et al., "Identification of a human nuclear receptor defines a new signaling pathway for CYP3A induction", <i>Proc. Natl. Acad. Sci. USA</i> , 1998, 95, 12208-12213	
	AL	Bossé, R., et al., "Development of nonseparation binding and functional assays for G protein-coupled receptors for high throughput screening: Pharmacological characterization of the immobilized CCR5 receptor on FlashPlate®," <i>J. Biomolecular Screening</i> , 1998, 3(4), 285-292	
	AM	Bruggemann, M., et al., "Production of human antibody repertoires in transgenic mice," <i>Curr. Opin. Biotechnol.</i> , 1997, 8, 455-458	
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	AN	Bruggemann, M., et al., "Strategies for expressing human antibody repertoires in transgenic mice," <i>Immunol. Today</i> , 1996, 17(8), 391-397	
	AO	Cane, D. E., et al., "Harnessing the Biosynthetic Code: Combinations, Permutations, and Mutations," <i>Science</i> , Oct. 1998, 282, 63-68	
	AP	Capeocchi, M. R., "Altering the genome by homologous recombination," <i>Science</i> , 1989, 244, 1288-1292	
	AQ	Cheng, L. et al., "Adenovirus-mediated gene transfer of the human tissue inhibitor of metalloproteinase-2 blocks vascular smooth muscle cell invasiveness in vitro and modulates neointimal development in vivo", <i>Circulation</i> , 1998, 98, 2195-2201	
	AR	Choo, Y., et al., "Promoter-specific activation of gene expression directed by bacteriophage-selected zinc fingers," <i>J. Mol. Biol.</i> , 1997, 273, 525-532	
	AS	Cosman, D., et al., "High Level Stable Expression of Human Interleukin-2 receptors in Mouse Cells Generates only Low Affinity Interleukin-2 Binding Sites," <i>Mol. Immunol.</i> , 1986, 23(9), 935-941	
	AT	Cosman, D., et al., "Cloning, sequence and expression of human interleukin-2 receptor," <i>Nature</i> , 1984, 312, 768-771	
	AU	Dayoff, in <i>Atlas of Protein Sequence and Structure</i> , 1972, National Biochemical Research Foundation, Washington, D.C., 5, 124	
	AV	Deckert, T. et al., "Implications for micro-and macrovascular disease", <i>Diabetes Care</i> , 1992, 15(9), 1181-1191	
	AW	Douglas, A. M., et al., "Direct sequencing of double-stranded PCR products incorporating a chemiluminescent detection procedure," <i>Biotechniques</i> , 1993, 14, 824-828	
	AX	Drmanac, R., et al., "DNA Sequence Determination by Hybridization A Strategy for Efficient Large-Scale Sequencing," <i>Science</i> , June 1993, 260, 1649-1652	
	AY	Drmanac, S., et al., "Accurate sequencing by hybridization for DNA diagnostics and individual genomics," <i>Nature Biotechnology</i> , 1998, 16, 54-58	
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	AZ	Ebihara, I., et al., "Increased plasma metalloproteinase-9 concentrations precede development of microalbuminuria in non-insulin-dependent diabetes mellitus", <i>Am. J. Kidney Dis.</i> , 1998, 32(4), 544-550	
	BA	Falk, E. et al., "Coronary plaque disruption", <i>Circulation</i> , 1995, 92, 657-671	
	BB	Fields, S., et al., "A novel genetic system to detect protein-protein interactions," <i>Nature</i> , 1989, 340, 245-246	
	BC	Fields, S., et al., "The two-hybrid system: an assay for protein-protein interactions," <i>Trends in Genetics</i> , 1994, 10, 286-292	
	BD	Fischer, S. G., et al., "DNA fragments differing by single base-pair substitutions are separated in denaturing gradient gels: Correspondence with melting theory," <i>Proc. Natl. Acad. Sci. USA</i> , 1983, 80, 1579-1583	
	BE	Foote, J., et al., Antibody framework residues affecting the conformation of the hypervariable loops," <i>J. Mol. Biol.</i> , 1992, 224, 487-499	
	BF	Forough, R. et al., "Overexpression of tissue inhibitor of matrix metalloproteinase-1 inhibits vascular smooth muscle cell functions in vitro and in vivo", <i>Cir. Res.</i> , 1996, 79(4), 812-820	
	BG	Frank, K. et al., "Diabetic eye disease: A primary care perspective", <i>South. Med. J.</i> , 1996, 89(5), 463-470	
	BH	Friedmann, T., "Progress toward human gene therapy," <i>Science</i> , 1989, 244, 1275-1281	
	BI	Fuster, V. et al., "Acute coronary syndromes: biology", <i>Lancet</i> , 1999, 353(suppl. II), 5-9	
	BJ	Gerhardt, C. C., et al., "Functional characteristics of heterologously expressed 5-HT receptors," <i>Eur. J. Pharmacology</i> , 1997, 334, 1-23	
	BK	Gomez, D. et al., "Tissue inhibitors of metalloproteinases: structure, regulation and biological functions", <i>Eur. J. Cell. Biol.</i> , 1997, 74, 111-122	
	BL	Greisman, H. A., et al., "A general strategy for selecting high-affinity zinc finger proteins for diverse DNA target sites," <i>Science</i> , 1997, 275, 657-661	
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	BM	Harendza, S. et al., "In vitro characterization of the mesangial phenotype in a proliferative glomerulonephritis of the rat", <i>Nephrol. Dial. Transplant</i> , 1997, 12, 2537-2541	
	BN	Henikoff, S., et al., "Amino acid substitution matrices from protein blocks," <i>Proc. Natl. Acad. Sci. USA</i> , 1992, 89, 10915-10919	
	BO	Hill, D. C., "Trends in development of high-throughput screening technologies for rapid discovery of novel drugs," <i>Cur. Opinion Drug Disc. Dev.</i> , 1998, 1(1), 92-97	
	BP	Hoogenboom H. R., "Designing and optimizing library selection strategies for generating high-affinity antibodies," <i>TIBTECH</i> , 1997, 15, 62-70	
	BQ	Jampol, L. et al., "Peripheral proliferative Retinopathies", <i>Surv. Ophthalmol.</i> , 1980, 25(1), 1-14	
	BR	Jayawickreme, C. K., et al., "Gene expression systems in the development of high-throughput screens, <i>Current Opinion in Biotechnology</i> , 1997, 8, 629-634	
	BS	Jones, P. T., et al., "Replacing the compementarity-determining regions in a human antibody with those from a mouse," <i>Nature</i> , 1986, 321, 522-525	
	BT	Karlin, S., et al., "Applications and statistics for multiple high-scoring segments in molecular sequences," <i>Proc. Natl. Acad. Sci. USA</i> , 1993, 90, 5873-5787	
	BU	Kettleborough, C. A., et al., "Humanization of a mouse monoclonal antibody by CDR-grafting: the importance of framework residues on loop conformation," <i>Protein Engin.</i> , 1991, 4(7), 773-783	
	BV	Kieleczawa, J., et al., "DNA sequencing by primer walking with strings of contiguous hexamers," <i>Science</i> , 1992, 258, 1787-1791	
	BW	Kim, J., et al., "Design of TATA box-binding protein/zinc finger fusions for targeted regulation of gene expression," <i>Proc. Natl. Acad. Sci. USA</i> , 1997, 94, 3616-3620	
	BX	Kosano, H. et al., "ProMMP-9 (92 kDa gelatinase) in vitreous fluid of patients with proliferative diabetic retinopathy", <i>Life Sciences</i> , 1999, 64(25), 2307-2315	
	BY	Lehninger, "Chapter 4, The amino acid building blocks of proteins," <i>Biochemistry</i> , 2 nd Ed., 1975, Worth Publishers, Inc., New York, New York, 71-77	
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	BZ	Lin, A. H., et al., "The oxazolidinone eperezolid binds to the 50S ribosomal subunit and competes with binding of chloramphenicol and lincomycin," <i>Antimicrobial Agents and Chemotherapy</i> , 1997, 41(10), 2127-2131	
	CA	Lindstedt, L. et al., "Matrix metalloproteinases-3, -7 and -12, but not -9, reduce high intensity lipoprotein-induced cholesterol efflux from human macrophage foam cells by truncation of the carboxyl terminus of apolipoprotein A-I", <i>J. Biol. Chem.</i> , 1999, 274(32), 22627-22634	
	CB	Liu, Q., et al., "Design of polydactyl zinc-finger proteins for unique addressing within complex genomes," <i>Proc. Natl. Acad. Sci. USA</i> , 1997, 94, 5525-5530	
	CC	Luckow, V. A., et al., "High Level Expression of Nonfused Foreign Genes with Autographa californica Nuclear Polyhedrosis Virus Expression Vectors," <i>Virology</i> , 1989, 170, 31-39	
	CD	Luckow, V. A., et al., "Trends in the development of baculovirus expression vectors," <i>Bio/Technology</i> , 1988, 6, 47-55	
	CE	Makishima, M. et al., "Identification of a nuclear receptor for bile acids", <i>Science</i> , 1999, 284, 1362-1365	
	CF	Maxam, A. M., et al., "Sequencing end-labeled DNA with bse-specific chemical cleavages", <i>Meth. Enzymol.</i> , 1977, Vol. 65, 499-560	
	CG	McColl, D. J., et al., "Structure-based design of an RNA-binding zinc finger", <i>Proc. Natl. Acad. Sci. (USA)</i> , 1997, Vol. 96, 9521-9526	
	CH	Miller, A. D., "Human gene therapy comes of age", <i>Nature</i> , 1992, Vol. 357, pp. 455-460	
	CI	Mirzabekov, A. D., "DNA sequencing by hybridization - A megasequencing method and a diagnostic tool?", <i>TIBTECH</i> , 1994, Vol. 12, 27-32	
	CJ	Morrison, et al., "Genetically engineered antibody molecules," Dixon, F.J., et al. (Eds.), <i>Adv. Immunol.</i> , 1989, 44, 65-92	
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	CK	Myers, R. M., et al., "Detection of single base substitutions by ribonuclease cleavage at mismatches in RNA: DNA duplexes", <i>Science</i> , 1985, Vol. 230, 1242-1246	
	CL	Myers, P., "Will combinatorial chemistry deliver real medicines," <i>Curr. Opin. Biotechnology</i> , 1997, 8, 701-707	
	CM	Nagase, H. et al., "Matrix metalloproteinases", <i>J. Biol. Chem.</i> , 1999, 274(31), 21491-21494	
	CN	Nakayama, G. R., "Microplate assays for high-throughput screening," <i>Cur. Opinion Drug Disc. Dev.</i> , 1998, 1, 85-91	
	CO	Newby, A.C. et al., "Extracellular matrix degrading metalloproteinases in the pathogenesis of arteriosclerosis", <i>Basic Res. Cardiol.</i> , 1994, 89(suppl. 1), 59-70	
	CP	Okayama, H., et al., "A cDNA cloning vector that permits expression of cDNA inserts in mammalian cells," <i>Mol. Cell. Biol.</i> , 1983, 3(2), 280-289	
	CQ	Orita, M., et al., "Detection of polymorphisms of human DNA by gel electrophoresis as single-strand conformation polymorphisms," <i>Proc. Natl. Acad. Sci. USA</i> , 1989, 86, 2766-2770	
	CR	Padlan, E. A., "A possible procedure for reducing the immunogenicity of antibody variable domains while preserving their ligand-binding properties," <i>Molecular Immunol.</i> , 1991, 28(4/5), 489-498	
	CS	Parks, D. et al., "Bile acids: Natural ligands for an orphan nuclear receptor", <i>Science</i> , 1999, 284, 1365-1368	
	CT	Pastinen, T., et al., "Minisequencing: A specific tool for DNA analysis and diagnostics on oligonucleotide arrays," <i>Genome Res.</i> , 1997, 7, 606-614	
	CU	Pausch, M. H., "G-protein-coupled receptors in <i>saccharomyces cerevisiae</i> : high-throughput screening assays for drug discovery," <i>Trends in Biotechnology</i> , 1997, 15, 487-494	
	CV	Pease, A. C., et al., "Light-generated oligonucleotide arrays for rapid DNA sequence analysis," <i>Proc. Natl. Acad. Sci. USA</i> , 1994, 91, 5022-5026	
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	CW	Phillips, S. D., et al., "Quino[1,2-c]quinazolines. I. Synthesis of quino[1,2-c]quinazolinium derivatives and the related indazolo[2,3-a]quinoline derivatives as analogs of the antitumor benzol[c]phenanthridine alkaloids," <i>J. Heterocyclic Chem.</i> , 1980, 17(19), 1489-1596	
	CX	Pillemer, G., et al., "Insulin dependence of murine lymphoid T-cell leukemia," <i>Int. J. Cancer</i> , 1992, 50, 80-85	
	CY	Pindon, A., et al., "Thrombin-induced reversal of astricyte stellation is mediated by activation of protein kinase C β -1," <i>Eur. J. Biochem.</i> , 1998, 255, 766-774	
	CZ	Posner, I., et al., "Kinetics of inhibition by tyrphostins of the tyrosine kinase activity of the epidermal growth factor receptor and analysis," <i>Molecular Pharmacology</i> , 1993, 45, 673-683	
	DA	Pulver, A. E., et al., "The Johns Hopkins University Collaborative Schizophrenia Study: An Epidemiologic-Genetic Approach to Test the Heterogeneity Hypothesis and Identify Schizophrenia Susceptibility Gene," <i>Cold Spring Harbor Symposia on Quantitative Biology</i> , ©1996, 61, 797-814	
	DB	Qu et al., "A Role for melanin-concentrating hormone in the central regulation of feeding behaviour", <i>Nature</i> , 1996, 380, 243-247	
	DC	Rader, C., et al., "Phage display of combinatorial antibody libraries," <i>Curr. Opin. Biotechnol.</i> , 1997, 8, 503-508	
	DD	Ramsay, G., "DNA chips: state-of-the-art," <i>Nature Biotechnology</i> , 1999, 16, 40-48	
	DE	Reece, P. A., et al., "Pharmacokinetics of trimetrexate administered by five-day continuous infusion to patients with advanced cancer," <i>Cancer Research</i> , 1987, 47(11), 2996-2999	
	DF	Reinsheid, R. K., et al., "Orphanin FQ: A neuropeptide that activates an opioidlike G protein-coupled receptor," <i>Science</i> , 1995, 270, 792-794	
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	DG	Rendu, F., et al., "Inhibition of platelet activation by tyrosine kinase inhibitors," <i>Biol. Pharmacology</i> , 1992, 44(5), 881-888	
	DH	Riechmann, L., et al., "Reshaping human antibodies for therapy," <i>Nature</i> , 1988, 332, 323-327	
	DI	Riesner, D., et al., "Temperature-gradient gel electrophoresis of nucleic acids: Analysis of conformational transitions, sequence variations, and protein-nucleic acid interactions," <i>Electrophoresis</i> , 1989, 10, 377-389	
	DJ	Roberts, E., et al., "Potassium permanganate and tetraethylammonium chloride are a safe and effective substitute for osmium tetroxide in solid-phase fluorescent chemical cleavage of mismatch," <i>Nucl. Acids Res.</i> , 1997, 25(16), 3377-3378	
	DK	Rogers, M. V., "Light on high-throughput screening: fluorescence-based assay technologies," <i>Drug Discovery Today</i> , 1997, 2(4), 156-160	
	DL	Rossi, M. et al., "Melanin-Concentrating Hormone Acutely Stimulates Feeding, But Chronic Administration Has No Effect on Body Weight", <i>Edocrinology</i> , 1997, 138(1), 351-355	
	DM	Rowley, G., et al., "Ultrarapid mutation detection by multiplex solid-phase chemical cleavage," <i>Genomics</i> , 1995, 30, 574-582	
	DN	Saito, Y., et al., "Molecular characterization of the melanin-concentrating-hormone receptor," <i>Nature</i> , 1999, 400, 265-269	
	DO	Sakurai, T., et al., "Orexins and orexin receptors: A family of hypothalamic neuropeptides and G protein-coupled receptors that regulate feeding behavior," <i>Cell</i> , 1998, 92, 573-585	
	DP	Sanger, F., et al., "DNA sequencing with chain-terminating inhibitors," <i>Proc. Natl. Acad. Sci. USA</i> , 1977, 74(12), 5463-5467	
	DQ	Sauro, M. D., et al., "Tyrphostin attenuates platelet-derived growth factor-induced contraction in aortic smooth muscle through inhibition of protein tyrosine kinase(s)," <i>J. Pharm. And Experimental Therapeutics</i> , 1993, 267(3), 1119-1125	
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	DR	Schafer, A. J., et al., "DNA variation and the future of human genetics," <i>Nature Biotechnology</i> , 1998, 16, 33-39	
	DS	Schroeder, K. S., et al., "FLIPR: A new instrument for accurate, high throughput optical screening," <i>J. Biomolecular Screening</i> , 1996, 1, 75-80	
	DT	Sculier, J. P., et al., "Role of an intensive care unit (ICU) in a medical oncology department," No. 257, <i>Cancer Immunol. And Immunother.</i> , 1986, 23, A65	
	DU	Segal, D. J., et al., "Toward controlling gene expression at will: Selection and design of zinc finger domains recognizing each of the 5'-GNN-3' DNA target sequences," <i>Proc. Natl. Acad. Sci. USA</i> , 1999, 96, 2758-2763	
	DV	Shaw, S. H., et al., "A Genome-Wide Search for Schizophrenia Susceptibility Genes," <i>Amer. J. of Med. Genet. (Neuropsych. Genet.)</i> , 1998, 81, 364-376	
	DW	Shimada et al., "Mice lacking melanin-concentrating hormone are hypophagic and lean", <i>Nature</i> , 1998, 396, 670-673	
	DX	Shumaker, J. M., et al., "Mutation detection by solid phase primer extension," <i>Hum. Mutat.</i> , 1996, 7, 346-354	
	DY	Sikora, E., et al., "Quinazoline CB 3717 and CB 3703 inhibition of folate retention and metabolism in ehrlich ascites carcinoma cells and some organs of the host-mouse," <i>Cancer Letters</i> , 1984, 23, 289-295	
	DZ	Sikora, E., et al., "Development of an assay for the estimation of N ¹⁰ -propargyl-5,8-dideazafolic acid polyglutamates in tumor cells," <i>Analytical Biochemistry</i> , 1988, 172, 344-355	
	EA	Sim, L. J., et al., "Identification of opioid receptor-like (ORL1) peptide-stimulated [³⁵ S]GTPγS binding in rat brain," <i>Neuroreport</i> , 1996, 7, 729-733	
	EB	Smith, T. F., et al., "Comparison of biosequences," <i>Adv. Appl. Math.</i> , 1981, 2, 482-489	
	EC	Smith-Swintosky, V. L., et al., "protease-activated receptor-2 (PAR-2_ is present in the rat hippocampus and is associated with neurodegeneration," <i>J. Neurochem</i> , 1997, 69, 1890-1896	
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	ED	Sonnhammer, E., et al., "A hidden markov model for predicting transmembrane helices in protein sequences," Glasgow, J., et al. (Eds.), <i>ISMB</i> , 1998, 6, 175-182	
	EE	Stables, J., et al., "A bioluminescent assay for agonist activity at potentially any G-protein-coupled receptor," <i>Analytical Biochemistry</i> , 1997, 252, 115-126	
	EF	Steen, B. et al., "Matrix metalloproteinases and metalloproteinase inhibitors in choroidal neovascular membranes", <i>Invest. Ophthalmol. Vis. Sci.</i> , 1998, 39(11), 2194-2200	
	EG	Stratowa, C., et al., "Use of a luciferase reporter system for characterizing G-protein-linked receptors," <i>Current Opinion in Biotechnology</i> , 1995, 6, 574-581	
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	EI	Strosberg, et al., "Functional expression of receptors in microorganisms," <i>Trends in Pharmacological Sciences</i> , 1992, 13, 95-98	
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Examiner Initial		Document No.	Date	Name	Class	Subclass			
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				Filing Date May 22, 2001		Group 1632	
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Examiner Initial		Document No.	Date	Name	Class	Subclass	
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Examiner Initial		Document No.	Date	Country	Translation YES NO		
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Complete if Known

Application Number	09/862,631
Filing Date	May 22, 2001
First Named Inventor	Timothy Wood
Group Art Unit	1652
Examiner Name	Sheridan Swope
Attorney Docket Number	PHRM0019-100

OTHER PRIOR ART -- NON PATENT LITERATURE DOCUMENTS

Examiner Initials *	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ²
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1652

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	B	US-			
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